THE UNIVERSITY OF HONG KONG

FACULTY OF SCIENCE

Programme Learning Outcomes – Major in Mathematics

1. University Educational Aims

Benchmarked against the highest international standards, the 4-year undergraduate curriculum at HKU is designed to enable our students to develop their capabilities in:

(1) pursuit of academic/professional excellence, critical intellectual enquiry and life-long learning
(2) tackling novel situations and ill-defined problems
(3) critical self-reflection, greater understanding of others, and upholding personal and professional ethics
(4) intercultural communication, and global citizenship
(5) communication and collaboration
(6) leadership and advocacy for the improvement of the human condition

2. Faculty Learning Outcomes

Students completing the BSc curriculum should be able to:

(1) explain the basic scientific principles and methods
(2) comprehend fundamental concepts in mathematics and the physical, chemical, biological and earth sciences, and understand the interconnectivity among the sciences and other disciplines
(3) apply scientific processes and knowledge in a wide variety of careers and professions
(4) effectively communicate within and across the science disciplines
(5) analyze scientific aspects of complex issues, and recognize and appraise moral and ethical issues within the sciences and related disciplines
(6) integrate acquired discipline-specific knowledge in a science for professional and further academic pursuit in that discipline

3. Programme Learning Outcomes – Major in Mathematics

By the end of this programme, students should be able to:

(1) describe and present fundamental concepts in mathematics
(by means of coursework and learning activities in the major or minor curriculum)
(2) apply mathematical theory and techniques to different areas of Sciences, and appraise the related ethical issues
(by means of coursework and learning activities in the major or minor curriculum)
(3) communicate in mathematical language and present scientific arguments
(by means of coursework, seminars, guided studies and projects)
(4) collaborate and work with other students in an effective manner
(by means of guided studies, projects and seminars)
(5) appreciate the beauty and power of mathematics
(by means of guided studies, projects and seminars)

4. Mapping of Programme Learning Outcomes to Faculty Learning Outcomes to University Educational Aims

Due to the richness and diversity of the Major, multiple Programme and/or Faculty Learning Outcomes may be used to satisfy the Faculty Learning Outcomes and/or University Educational Aims.

Programme Learning Outcomes – Major in Mathematics	Faculty Learning Outcomes – BSc programme	University Educational Aims
By the end of this programme, students should be able to:	Students completing the BSc curriculum should be able to:	Benchmarked against the highest international standards, the 4-year undergraduate curriculum at HKU is designed to enable our students to develop their capabilities in:
(1) describe and present fundamental concepts in mathematics (2) apply mathematical theory and techniques to different areas of Sciences, and appraise the related ethical issues (5) appreciate the beauty and power of mathematics	(1) explain the basic scientific principles and methods (2) comprehend fundamental concepts in mathematics and the physical, chemical, biological and earth sciences, and understand the interconnectivity among the sciences and other disciplines (3) apply scientific processes and knowledge in a wide variety of careers and professions (5) analyze scientific aspects of complex issues, and recognize and appraise moral and ethical issues within the sciences and related disciplines (6) integrate acquired discipline-specific knowledge in a science for professional and further academic pursuit in that discipline	(1) pursuit of academic/professional excellence, critical intellectual enquiry and life-long learning
(2) apply mathematical theory and techniques to different areas of Sciences, and appraise the related ethical issues (5) appreciate the beauty and power of mathematics	(2) comprehend fundamental concepts in mathematics and the physical, chemical, biological and earth sciences, and understand the interconnectivity among the sciences and other disciplines (3) apply scientific processes and knowledge in a wide variety of careers and professions (5) analyze scientific aspects of complex issues, and recognize and appraise moral and ethical issues within the sciences and related disciplines	(2) tackling novel situations and ill-defined problems
(2) apply mathematical theory and techniques to different areas of Sciences, and appraise the related ethical issues	(5) analyze scientific aspects of complex issues, and recognize and appraise moral and ethical issues within the sciences and related disciplines	(3) critical self-reflection, greater understanding of others, and upholding personal and professional ethics

Programme Learning Outcomes – Major in Mathematics	Faculty Learning Outcomes – BSc programme	University Educational Aims
By the end of this programme, students should be able to:	Students completing the BSc curriculum should be able to:	Benchmarked against the highest international standards, the 4-year undergraduate curriculum at HKU is designed to enable our students to develop their capabilities in:
(3) communicate in mathematical language and present scientific arguments (4) collaborate and work with other students in an effective manner	(4) effectively communicate within and across the science disciplines (5) analyze scientific aspects of complex issues, and recognize and appraise moral and ethical issues within the sciences and related disciplines	(4) intercultural communication, and global citizenship
(3) communicate in mathematical language and present scientific arguments (4) collaborate and work with other students in an effective manner	(4) effectively communicate within and across the science disciplines	(5) communication and collaboration
(2) apply mathematical theory and techniques to different areas of Sciences, and appraise the related ethical issues (5) appreciate the beauty and power of mathematics	(3) apply scientific processes and knowledge in a wide variety of careers and professions	(6) leadership and advocacy for the improvement of the human condition